3Com® Router 6000 Family

DATA SHEET

Versatile, feature-rich routers built to deliver secure converged network connections from the core to the edge of the enterprise

OVERVIEW

The 3Com® Router 6000 Family provides flexible, feature-rich routing from the core to the edge of the enterprise network, delivering resilient WAN connectivity for a variety of topologies and business environments.

The family offers chassis with four slots (3U form factor) or eight slots (5U), plus a choice of 30 different Flexible Interface Card (FICs) that gives the enterprise a wide-ranging choice of industry-standard WAN and LAN interfaces. A hot-swappable, resilient modular design simplifies installation and maintenance, while offering numerous expansion options to help the organization keep pace with growth and change.

Advanced quality of service (QoS) and other traffic management capabilities support latency-sensitive converged applications such as voice over IP or video. The routers protect data and resources with a layered security approach, including an embedded stateful packet inspection firewall. And they have been independently tested for interoperability with Cisco routing devices.

KEY BENEFITS

FLEXIBLE ENTERPRISE-READY DESIGN

The Router 6000 Family offers an attractive and economical solution for enterprises wanting to maximize throughput and uptime across the network. Comprehensive support for standards-based WAN and LAN interfaces and protocols ensures easy integration with the widest spectrum of public and private networks. Configuration options provided by the FIC modules deliver T1/E1, T3/E3, ISDN PRI, asynchronous transfer mode (ATM), frame relay and asynchronous DSL (ADSL) links, as well as various Ethernet LAN options.

Both router models come with hot-swappable FIC slots that don't require powering down for card replacement, and fan and power supply modules. A router processing unit (ordered separately) is required for each chassis.

(from left): 3Com Router 6040, 3Com Router 6080

KEY BENEFITS
(CONTINUED)

FULLY FEATURED ROUTING PLATFORM

To eliminate the need for costly and inconvenient upgrades, the routers come equipped with all the required operating memory, a complete routing and security suite and a robust applications set. The routers include a full complement of memory (512 MB of SDRAM) and flash memory to support dual software images. Standard routing capabilities include: IP and IPX routing, OSPF, RIP V1/2, integrated IS–IS, multicast routing, QoS, IEEE 802.1Q VLAN and IGMP v1, 2 and 3, and more.

MULTIVENDOR INTEROPERABILITY ACROSS THE WAN

To accommodate today's multivendor networking environments, 3Com routers are designed to interoperate with standards-based equipment from other vendors. The 3Com Router 6000 Family has been "Tolly Verified for Interoperability with Cisco," reducing implementation and testing time for enterprises with core Cisco routers.

ADVANCED SECURITY AND CONTROL FEATURES

The Router 6000 Family helps secure and safeguard sensitive information against unauthorized access. Security and control features include: AAA, RADIUS authentication, a stateful packet inspection firewall, denial-of-service (DoS) blocking and Access Control Lists (ACLs). L2TP and IPSec VPNs with 3DES and AES encryption provide additional security over the WAN.

The embedded firewall includes support for ACLs, plus generic routing encapsulation (GRE), network address translation (NAT), NAT traversal and application layer gateways. Business applications are able to pass easily through the firewall and across the VPN.

VOICE, DATA AND VIDEO CONVERGENCE SUPPORT

The 3Com Router 6000 Family delivers advanced QoS, including DiffServ support, for effective traffic management on networks that run converged voice, data and video applications. Utilizing IP differentiated services for applications and ATM QoS for traffic and physical layer prioritization, the routers are equipped to handle the most demanding multimedia networking. This helps assure the level of service required for delay-sensitive traffic and continuous business operation, even during heavy network use. The routers support both IEEE 802.1p prioritization and IEEE 802.Q VLANs.

Voice FICs support both analog and digital voice communications. They enable enterprises, service providers and managed service providers to connect the public switched telephone network (PSTN) and traditional telephony equipment—including PBXs, key systems, analog phones and fax machines—directly to the routers without additional equipment.

RESILIENCE AND REDUNDANCY FOR MAXIMUM UPTIME

The routers are designed for high resiliency to meet stringent enterprise uptime standards. To help ensure continuous operation, they support redundant links and provide extra bandwidth to minimize downtime and ensure resilience in case of service disruptions.

Reliability features include configuration rollback, multilinks, Virtual Router Redundancy Protocol (VRRP), Backup Control Center (Configuration/Port) and Dial Control Center. In addition, the routers include 32 MB of flash memory to hold multiple configuration files and operating system images for recovery purposes. If the router cannot boot from a recently updated software image or configuration file, it can boot from a specified backup file or image residing in this memory.

KEY BENEFITS
(CONTINUED)

NEXT-GENERATION NETWORK EFFICIENCY WITH MPLS

Using the Multiprotocol Label Switching (MPLS) capability in the routers, larger enterprises can simplify the routing configuration of an existing network infrastructure and provide scalable Layer 2 or Layer 3 VPNs throughout the network. This increases network efficiency in services that support MPLS technology.

SIMPLIFIED REMOTE-SITE INSTALLATION AND UPGRADES

New router deployments and upgrades can be costly and time-consuming for IT organizations, particularly for those organizations with a large number of regional or branch offices at some distance from central sites. The 3Com Router 6000 Family provides an auto-configuration feature that lets staff configure the devices from a central location. With no need for local configuration or pre-configuration prior to deployment, enterprises can easily and cost-effectively deploy the routers in locations where IT expertise is limited.

SOPHISTICATED MANAGEMENT CAPABILITIES

3Com Router 6000 devices can be managed using the optional 3Com Management Suite, or using 3Com Router Manager, which is included with the optional 3Com Network Director software. These graphical applications provide sophisticated remote diagnostic and management capabilities, including bulk updating of remote router code and configuration backup, auto-trap setup and monitoring, router system status and historical reporting. An intuitive, easy-to-use CLI function can be accessed directly, or remotely via Telnet, Secure Shell, or Rlogin. Other standards-based management applications may also be used. The Info Center diagnostic tool, available through the CLI interface, helps spot problems and reports them for quick remedial action.

WORLD-CLASS SERVICE, SUPPORT AND TRAINING

3Com routers are backed by 3Com and its authorized partners. Professional customer service organizations offer assessment, installation, management and maintenance support for network infrastructures. Skilled personnel with experience in a variety of network environments can assist 3Com customers through all phases of network planning, implementation, troubleshooting and product training.

AN END-TO-END 3COM SOLUTION

The 3Com Router 6000 Family is an integral part of 3Com's broad portfolio of secure converged network solutions for enterprises and small businesses: 3Com TippingPoint™ Intrusion Detection Systems; 3Com Router 3000 and Router 5000 families; 3Com Switch 8800, Switch 7700, Switch 5500 and Switch 4500 families; the 3Com Convergence Application Suite and the 3Com VCX™ and NBX® IP telephony platforms; and 3Com OfficeConnect® routers, switches and firewalls for small offices.

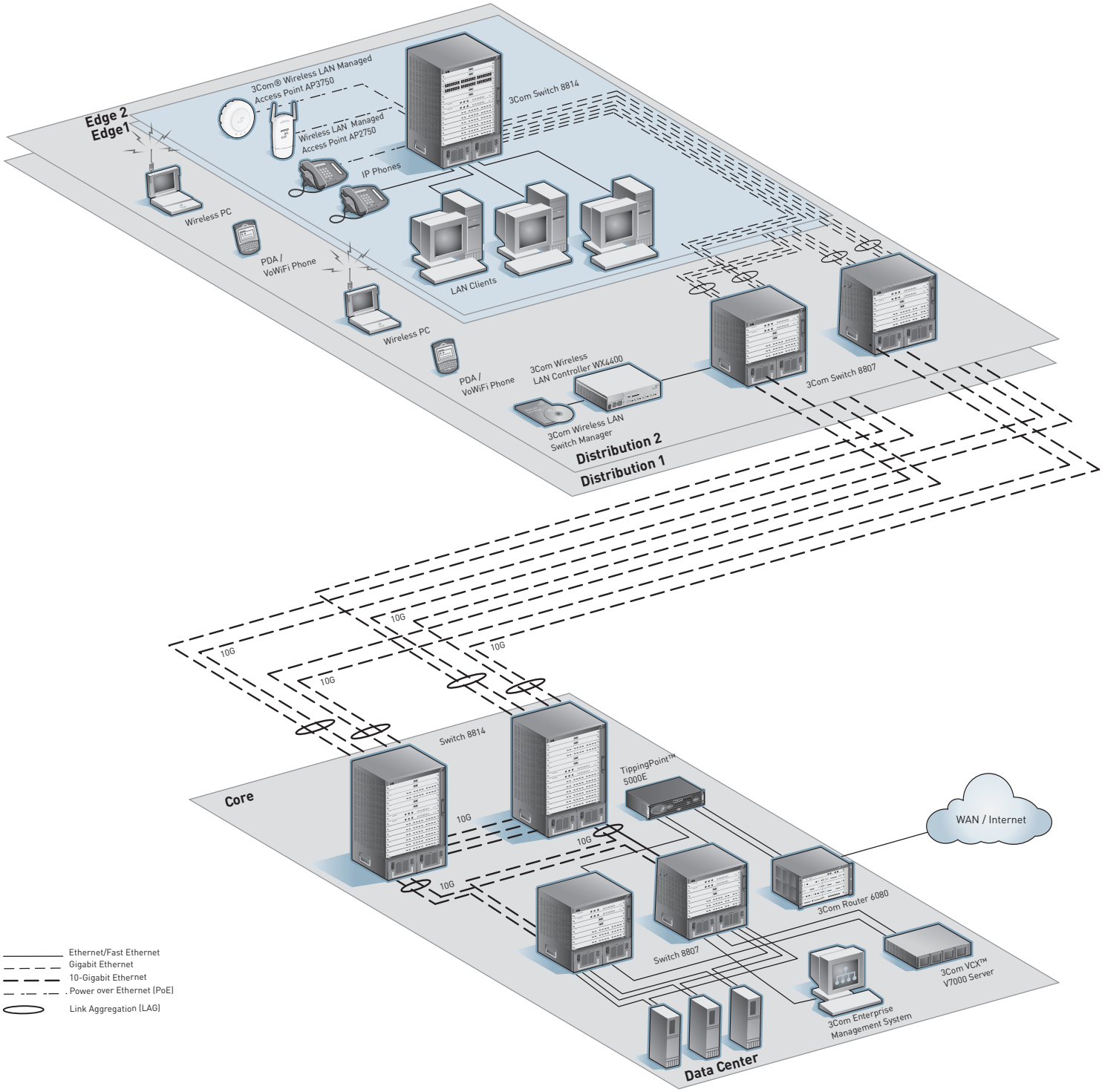
FEATURE HIGHLIGHTS

- Comes with all the processing power, memory and software needed for enterprise-level routing from the core to the edge of the network
- Features a versatile modular design that economically supports a wide array of WAN and LAN interfaces using Flexible Interface Cards
- Offers a choice of hot-swappable four-slot or eight-slot chassis that do not have to be powered down for card replacement
- Supports a full complement of routing protocols and technologies for integration with a broad range of public and private networks
- Provides QoS and other traffic management to protect the performance of converged applications such as voice over IP and video over IP
- Provides MPLS support to simplify configurations and improve network efficiency
- Ensures security and control with embedded authentication, stateful packet inspection firewall, VPN capability and other features
- Interoperates with Cisco and other standards-based routers
- Supports dual software images to assist in recovery and provide rollback capabilities
- Can be managed centrally with a full set of diagnostic tools and control features
- Offers voice cards for direct connection to digital and legacy analog telephony systems and devices
- Backed by top-flight service, support and training from 3Com and 3Com authorized partners

The "Tolly Verified" certification, supported by intensive testing by The Tolly Group, provides the opportunity for enterprise network buyers to evaluate products on an objective basis and gain the confidence that products support industry-accepted protocols and features, and deliver interoperability.

For details, see www.tolly.com/TVDetail.Aspx?ProductID=172.

SAMPLE CONFIGURATION:
CORE-TO-EDGE DEPLOYMENT OF SWITCH 8800 FAMILY IN ENTERPRISE CAMPUS NETWORK



SPECIFICATIONS

All information in this section is relevant to the 3Com Router 6040 and 6080 unless stated otherwise

PORTS

Router 6040:
4 FIC slots

Router 6080:
8 FIC slots

Both models:
1 Router Processing Unit slot

1 spare power supply slot

Router Processing Unit:
2 10BASE-T/100BASE-TX ports

1 console port

1 AUX serial port

Router Processing Unit 2:
2 10BASE-T/100BASE-TX/ 1000BASE-T ports

1 dual-personality Gigabit port pair configurable as 10BASE-T/100BASE-TX/ 1000BASE-T or SFP

1 console port

1 AUX serial port

1 Compact Flash slot

MEMORY

Boot ROM: 512 KB

SDRAM: 512 MB

Flash: 32 MB

AVAILABLE LAN CONNECTIONS

10/100 and 10/100/1000 Ethernet

AVAILABLE WAN ROUTING

ISDN PRI, frame relay, X.25, X.21, T1, E1, T3, E3, V.35, HDLC/SDLC, leased line, sync/async, ATM, ADSL, IP, IPX, OSPF, PPP, RIP v1 and v2, BGP-4, MPLS, integrated IS-IS, static routing, multicast routing

SECURITY

Stateful packet inspection firewall

VPN: L2TP, GRE, IPSec

MPLS VPN: L2 and L3

ACLs, NAT, X.509, AAA, RADIUS, PAP/CHAP, TACACS+

VOICE AND DATA SUPPORT

IP QoS: CAR, LAR, GTS, FIFO, PQ, CQ, WFQ, WRED, LLQ; IEEE 802.1p

Multicast routing protocols: IGMP, PIM-SM, PIM-DM

IEEE 802.1Q VLAN and inter-VLAN routing

H.323 and SIP Gatekeeper support, G.729/G.711/G.723 compression

Telephony interface signaling support

RESILIENCE

Hot-swap power, fan and FIC modules

N+1 power supply module backup

VRRP, Backup Center (Configuration/ Port), Dial Control Center, multilinks

DIMENSIONS

Router 6040:
Height: 130.5 mm (5.1 in)
Width: 436.2 mm (17.2 in)
Depth: 420.0 mm (16.5 in)
Weight: 17.5 kg (38.6 lb)

Router 6080:
Height: 219.5 mm (8.6 in)
Width: 436.2 mm (17.2 in)
Depth: 420.0 mm (16.5 in)
Weight: 27.5 kg (60.6 lb)

POWER SUPPLY

Router 6040: 100-240 VAC, 240W

Router 6080: 100-240 VAC, 320W

AC line frequency 50/60 Hz

ENVIRONMENTAL REQUIREMENTS

Operating temperature: 0° to 40°C (32° to 104°F)

Storage temperature: -40° to 70°C (-40° to 158°F)

Humidity (operating and storage): 5% to 90% non-condensing

MTBF

Router 6040: 1,520 years (13,324,000 hours)

Router 6080: 2,212 years (19,390,000 hours)

Router 6000 RPU: 75 years (657,000 hours)

Router 6000 RPU2: 75 years (657,000 hours)

Router 6000 PSU: 57 years (500,000 hours)

FICs:
3C13821A: 119 years (1,042,000 hours)
3C13823: 112 years (984,000 hours)
3C13860: 151 years (1,323,000 hours)
3C13861: 389 years (3,413,000 hours)
3C13862: 136 years (1,191,000 hours)
3C13863: 157 years (1,376,000 hours)
3C13864: 95 years (832,000 hours)
3C13866: 112 years (985,000 hours)
3C13870A: 119 years (1,042,000 hours)
3C13871: 557 years (4,883,000 hours)
3C13872: 143 years (1,252,000 hours)
3C13874: 201 years (1,762,000 hours)
3C13875: 198 years (1,736,000 hours)
3C13876: 211 years (1,850,000 hours)
3C13877A: 217 years (1,902,000 hours)
3C13879: 470 years (4,120,000 hours)
3C13881A: 355 years (3,112,000 hours)
3C13882A: 255 years (2,239,000 hours)
3C13884A: 126 years (1,108,000 hours)
3C13886A: 126 years (1,108,000 hours)
3C13887: 482 years (4,225,000 hours)
3C13888: 199 years (1,744,000 hours)
3C13889A: 192 years (1,681,000 hours)
3C13890: 359 years (3,147,000 hours)
3C13891: 260 years (2,279,000 hours)
3C13893: 280 years (2,454,000 hours)
3C13894: 187 years (1,639,000 hours)
3C13895: 207 years (1,815,000 hours)
3C13896: 136 years (1,192,000 hours)
3C13897: 183 years (1,604,000 hours)
3C13898: 175 years (1,534,000 hours)
3CR13806-75: 751 years (6,579,000 hours)
3CR13873-75: 370 years (3,243,000 hours)

REGULATORY COMPLIANCE

CE Mark for European Union, Council Directive 99/5/EC

MANAGEMENT

3Com Enterprise Management Suite

3Com Network Director

3Com Router Manager†

CLI

SNMP v1, 2 and 3; Telnet, SSH, Rlogin and Info Center (diagnostic tool) support

EMISSIONS / AGENCY APPROVALS

CISPR 22 Class A

EN55022 Class A

FCC Part 15, CFR 47 Class A

ICES-003 Class A

AS/NZS CISPR22 Class A

VCCI V-3 Class A

IMMUNITY

Product conforms to:

CISPR 24

EN55024

EN61000-3-2, 61000-3-3, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-8 and 61000-4-11

SAFETY AGENCY CERTIFICATIONS

UL 60950 3rd Edition

CAN/CSA-C22.2 #60950

EN60825-1, 60825-2, 60950

IEC 60950

AS/NZS 60950: 2000

WARRANTY AND OTHER SERVICES

One-year Limited Hardware Warranty.

Limited Software Warranty for 90 days

90 days of telephone technical support

Refer to **www.3com.com/warranty** for details.

† 3Com Router Manager included in 3Com Network Director

SERVICE AND SUPPORT

3Com Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.

Global support with a personalized, local focus in the local language helps drive productivity and minimize expenses. Because 3Com understands both the technology and the business, we're the partner you need to remain strong and competitive.

Suggested Service, Support and Training Offerings

Network Health Check	An activity-auditing service focused on improving network performance and productivity Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations Extensive report provides blueprint for action
Network Installation and Implementation Services	Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration
Project Management	Provides extra focus and resources that special projects demand 3Com engineers manage entire process from initial specifications to post-project review Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked
3Com Guardian℠ Maintenance Service	This service provides comprehensive on-site support and includes advance hardware replacement, telephone technical support and software upgrades
3Com Express℠ Maintenance Service	This service provides speedy access to 3Com shipment of advance hardware replacements, software upgrades and telephone support
3Com University	Self-paced and instructor-led technology and product courses, plus certification programs

For additional information, please visit www.3com.com/services

ORDERING INFORMATION

PRODUCT DESCRIPTION	3COM SKU
3Com Router 6040 *3Com Router 6040 chassis, 4 FIC slots, 1 power supply, fan module*	3C13840
3Com Router 6080 *3Com Router 6080 chassis, 8 FIC Slots, 1 power supply, fan module*	3C13880
Router Processing Unit must also be ordered separately for each chassis:	
3Com Router Processing Unit *2 x 10/100 ports*	3C13804
3Com Router Processing Unit 2 *2 x 10/100/1000 ports, 1 dual-purpose port for 10/100/1000 Mbps copper or Gigabit fiber SFP, socket for optional encryption card*	3C13805
3Com Router 6000 Power Supply *Spare / redundant power supply*	3C13801
LAN Flexible Interface Card (FIC) Modules	
3Com Router 1-Port 100 Mbps FX MM FIC *1-port 100BASE-FX interface module; multi-mode fiber, SC connector*	3C13860
3Com Router 2-Port 10/100 Mbps FIC *2-port 10BASE-T/100BASE-TX interface module*	3C13861
3Com Router 1-Port 100 Mbps FX SM FIC *1-port 100BASE-FX interface module; single-mode fiber, SC connector*	3C13862
3Com Router 1-Port Gigabit Ethernet Fiber FIC *1-port Gigabit fiber SFP interface module*	3C13879
3Com Router 1-Port 10/100/1000 Mbps FIC *1-port 10BASE-T/100BASE-TX/1000BASE-T interface module*	3C13887
WAN Flexible Interface Card (FIC) Modules	
3Com Router 4-Port Fractional T1 FIC *4-port Fractional T1 interface module*	3C13821A
3Com Router 4-Port Fractional E1 FIC *4-port Fractional E1 interface module*	3C13823
3Com Router 4-Port Enhanced Serial FIC *4-port Sync/Async serial interface module*	3C13863
3Com Router 8-Port Enhanced Serial FIC *8-port Sync/Async serial interface module*	3C13864
3Com Router 4-Port Channelized E1/PRI FIC *4-port E1/CE1/PRI interface module*	3C13866
3Com Router 4-Port Channelized T1/PRI FIC *4-port T1/CT1/PRI interface module*	3C13870A
Com Router 1-Port ADSL (over POTS) FIC *1-Port ADSL (over POTS) interface module*	3C13871
3Com Router 2-Port ADSL FIC *2-port ADSL interface module (ADSL over POTS – Annex A)*	3C13872
3Com Router 4-Port E1 IMA FIC *4-Port E1 IMA interface module*	3C13874
3Com Router 4-Port T1 IMA FIC *4-Port T1 IMA interface module*	3C13875
3Com Router 1-Port E3 ATM FIC *1-Port E3 interface module*	3C13876
3Com Router 1-Port T3 ATM FIC *1-Port T3 interface module*	3C13877A
3Com Router 1-Port OC-3 POS FIC *1-port OC-3 POS interface module; multi-mode, SFP slot*	3C13881A
3Com Router 1-Port OC-3 ATM, MM FIC *1-port OC-3 ATM interface module; multi-mode, SC connector*	3C13882A
3Com Router 1-Port OC-3 ATM, SM FIC *1-port OC-3 ATM interface module; single-mode (15km distance), SC connector*	3C13884A
3Com Router 1-Port OC-3 ATM, SML FIC *1-port OC-3 ATM interface module; single-mode long reach (30km distance), SC connector*	3C13886A

PRODUCT DESCRIPTION	3COM SKU
3Com Router 1-Port Channelized E3 FIC *1-port Channelized E3 interface module*	3C13888
3Com Router 1-Port Channelized T3 FIC *1-port Channelized T3 interface module*	3C13889A
3Com Router 2-Port FXS FIC *2-port FXS interface module*	3C13890
3Com Router 4-Port FXS FIC *4-port FXS interface module*	3C13891
3Com Router 2-Port FXO FIC *2-port FXO interface module*	3C13893
3Com Router 4-Port FXO FIC *4-port FXO interface module*	3C13894
3Com Router 2-Port E&M FIC *2-port E&M interface module*	3C13895
3Com Router 4-Port E&M FIC *4-port E&M interface module*	3C13896
3Com Router Channelized E1 Voice FIC *1-port Channelized E1 voice interface module*	3C13897
3Com Router Channelized T1 Voice FIC *1-port Channelized T1 voice interface module*	3C13898
Encryption Options	
3Com Router 6000 RPU2 Encryption Accelerator *Encryption daughter card for Router Processing Unit 2*	3CR13806-75
3Com Router NDEC2 Encryption Accelerator FIC *IPSec Encryption accelerator module*	3CR13873-75
Cables (3 meters in length, unless otherwise noted)	
3Com Router Auxiliary Cable *RJ-45, DB-9M, DB-25M*	3C13674
3Com Router T1 Cable, RJ45 *T1- RJ45 to RJ45*	3C13674
3Com Router E1 Cable, BNC, 20m *E1 – 75 ohm/2.55 mm-DB-15M to 2 x BNC 75 ohm; 20 meters*	3C13675
3Com Router E1 Cable, RJ45, 20m *E1 – 120 ohm/0.32 mm-DB-15M to RJ-45; 20 meters*	3C13676
3Com Router E1 Cable, RJ45 *G.703 – 120 ohm/0.32 mm-DB-15M to RJ-45*	3C13677
3Com Router X.21 DTE Cable- Enhanced *X.21 DTE – DB-28M to X.21M*	3C13681
3Com Router X.21 DCE Cable- Enhanced *X.21 DCE – DB-28M to X.21F*	3C13682
3Com Router V.24 DTE Cable- Enhanced *V.24 DTE – DB-28M to V.24M*	3C13683
3Com Router V.24 DCE Cable- Enhanced *V.24 DCE – DB-28M to V.24F*	3C13684
3Com Router V.35 DTE Cable- Enhanced *V.35 DTE – DB-28M to V.35M*	3C13685
3Com Router V.35 DCE Cable- Enhanced *V.35 DCE – DB-28M to V.35F*	3C13686
3Com Router T3/E3 Cable *T3/E3 – 75 ohm, SMB to BNC; 15 meters*	3C13687
3Com Router T1 Voice Cable *T1 Voice – DB-15M to RJ45*	3C13688
3Com Router 4-Port E1 IMA Cable *E1 IMA – DB-68M to 4 x RJ45*	3C13689
3Com Router 4-Port T1 IMA Cable *T1 IMA – DB-68M to 4 x RJ45*	3C13690

Visit www.3com.com for more information about 3Com secure converged network solutions.

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